



Working Together Since 1967 to Preserve Federalism and Tax Fairness

Current Economic Conditions

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Try a little thought experiment where someone asks a group of people a simple question: “How is the economy doing right now? Probably, the people glare at the questioner who has the audacity to disturb the small talk that usually takes place at situations like this with such a question. Someone boasts that they know the economy is doing amazingly well because they read an article in the business section of their favorite newspaper. Another person, a teacher, opines that the economy is performing badly because he knows several people who are currently unemployed and actively seeking work with no success. Still another, states that the economy is doing quite well now but they believe it will take a turn for the worse very soon. The problem is that all the respondents are, or, may be correct because it is practically impossible to describe the condition of an economy as complex as our \$21 trillion economy, as measured by the US Gross Domestic Product (GDP) in just a few words.¹ This short paper, tries to provide a broad overview of the economic conditions in the US as a whole; and for individual states. The fiscal conditions of state and local governments are imperfectly correlated with changes, past and projected, in the economic conditions of the nation and of the individual states. The first section presents economic conditions for the US as a whole and the second section contains projected national economic conditions. The third section presents some data on the economic conditions of the states; and, the last section contains some projections of future conditions.

National Backdrop

Real Gross Domestic Product

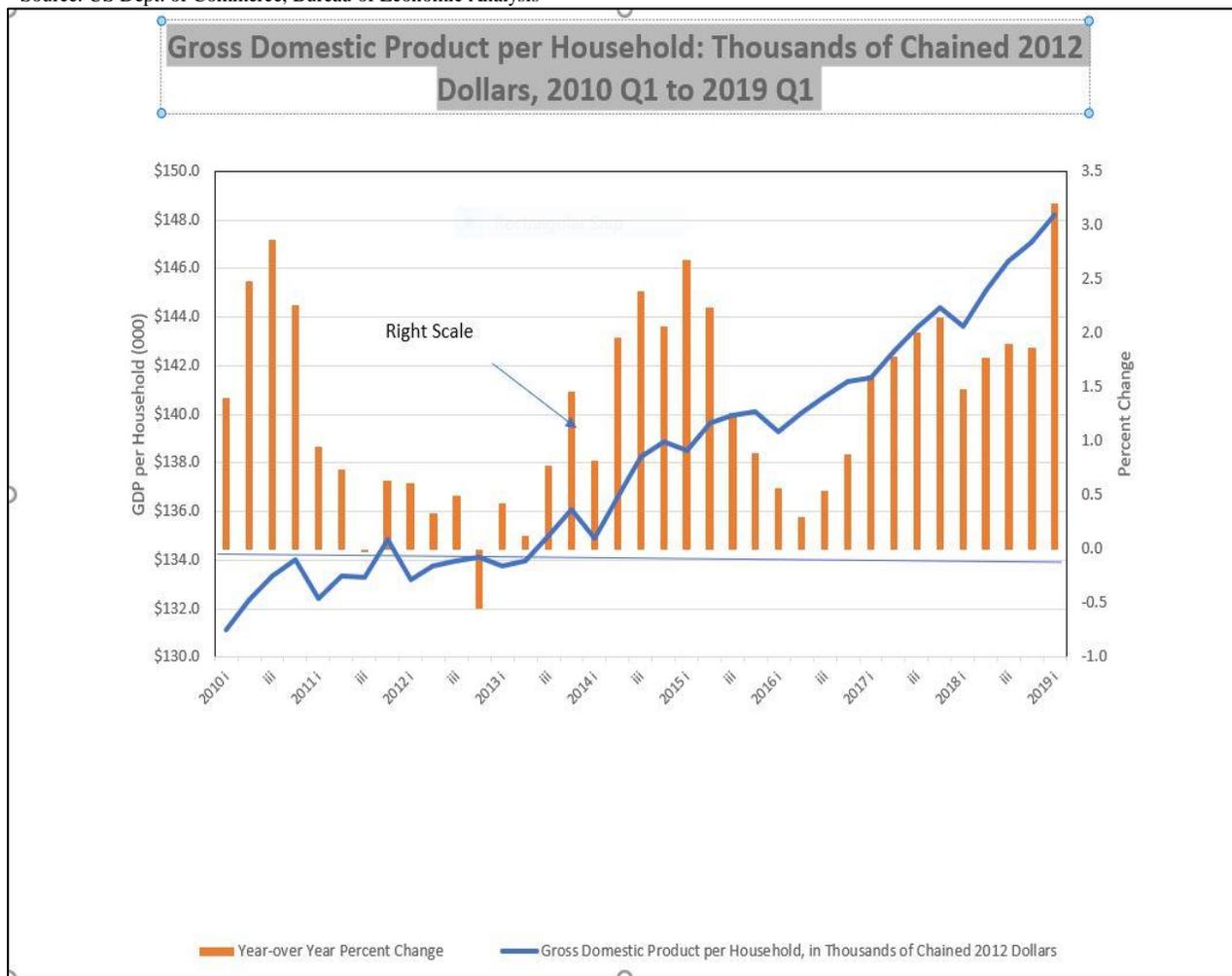
Referring to the thought experiment outlined previously, we assumed that the person who posed the question and the respondents were referring both the level and changes in GDP as the measure of economic performance because GDP *is* the most widely used reference regarding economic activity. The major shortcoming of using GDP as the most significant indicator of how well and economy is doing is that it does not shed light on how well individual and families are doing. Personal Income provides a more focused picture of how well the economy is performing for households.

The U.S. economy is rapidly growing out of the deep recession that gripped the nation from the

¹ Gross Domestic Product is defined as the market value of goods and services produced by labor and property in a given geographic area in a specific period of time.

end of 2007 through mid-2009. Economic growth, as measured by changes in GDP per household in chained 2012 dollars has been growing at an average annual rate of 1.2 percent from the first quarter of 2009, the nadir of the Great Recession through the first quarter of this year. As shown in the chart below, year-over-year percentage changes in chained GDP per household exhibited a strong cyclical variation. However, growth has picked up considerably in the past year. GDP has grown 3.1 percent from the first quarter of 2018 to the first quarter of 2019.

Source: US Dept. of Commerce, Bureau of Economic Analysis



.Personal Income

Below are three measures of Personal Income² (PI) per household in chained 2012 dollars from the first quarter of 2010 through the first quarter of 2019: Total PI; Disposable Personal Income; and, Disposable Personal Income less current transfer payments.³ Disposable Personal Income is PI less current taxes. The last term, Disposable Personal Income less transfer payments represents the after-tax income (labor compensation, proprietors' income, rental income, royalty income, dividends and interest income).

All three measures of income per household appear to have been increasing fairly steadily from the first quarter of 2010 through the first quarter of 2019, with the exception of 2014 when all measures of PI declined. All three measures of PI grew at similar rates during this period. Per household PI in constant 2012 dollars grew at an average annual rate of 1.65 percent; Disposable PI grew at an average annual rate of 1.42 percent; and, Disposable PI less transfer payments grew at an average annual rate of 1.36 percent. However, as shown in the accompanying chart, all three measures of PI exhibit strong cyclical fluctuations using the year-over-year percentage change. That is, slowdowns in PI are subsequently followed by strong growth in incomes. It is not surprising that trends and cyclical fluctuations in GDP and PI per household are similar since PI is a component of GDP. The next section looks at trends in household income over a 50-year period.

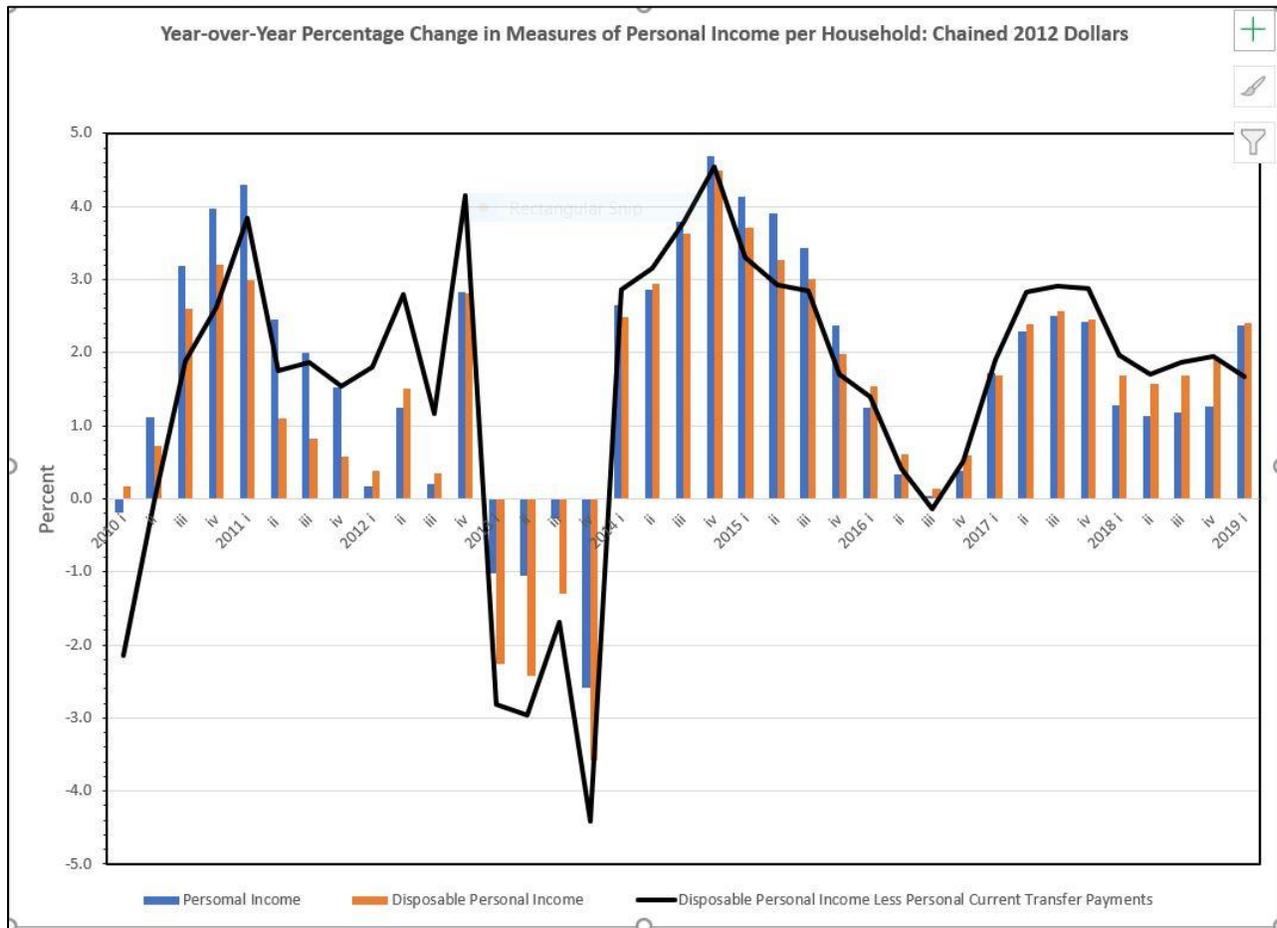
Household Incomes

In the previous sections the different aggregate measures of income were divided by the number of households in order to get an idea of the relative magnitude of incomes. In this section, average (mean) and median incomes of households are presented. Income is defined as: Earnings; unemployment insurance worker's compensation; Social Security; Supplemental Security Income; Public Assistance; veteran's payment; survivor benefits; disability benefits; pension or retirement income; interest; dividends; rents, royalties, and income from estates and trusts; education assistance; alimony; child support; financial assistance from outside the

² Income received by persons from all sources. It includes income received from participation in production as well as from government and business transfer payments. It is the sum of compensation of employees (received), supplements to wages and salaries, proprietors' income with inventory valuation adjustment (IVA) and capital consumption adjustment (CCAdj), rental income of persons with CCAdj, personal income receipts on assets, and personal current transfer receipts, less contributions for government social insurance

³ Transfer payments consist of income payments to persons for which no current services are performed. It is the sum of government social benefits and net current transfer receipts from business. Business transfer payments to persons consist of net insurance settlements and income payments to persons for which no current services are performed.

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household; and other income.⁴ Non-cash transfers are excluded from household incomes. Annual incomes are adjusted for inflation by dividing household incomes by the Consumer Price Index U-RS 2017 =100.0.⁵ The chart below presents both the mean and median household income and Gini coefficient (see the Appendix for definition).of household income, adjusted by the CPI-U-RS, from 1967 to 2017.⁶

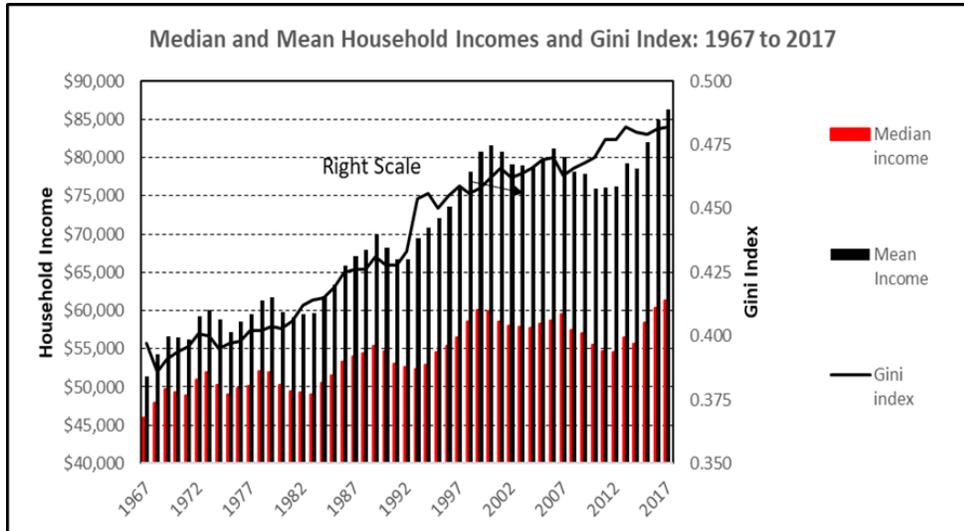
For the fifty-year period from 1967 to 2017 two divergent trends are apparent, Households with incomes around the median experienced only a slight increase in real (deflated) incomes -- \$45,965 in 1967 to \$61,372 in 2017, an increase of 34 percent; approximately .58 percent per year. Conversely, households with incomes around the mean experienced an increase in real incomes of 68 percent – double the increase in the incomes of those households with incomes around the median. The real income of households with incomes around the mean grew from \$51,409 to \$86,220 during the 1967 to 2017 period; or, approximately 1.04 percent per year on average. The Gini index, which is an indicator of income inequality, increased from about .39 to about .48 during this period.

⁴ Fontenot, Kayla, Jessica Semega, and Melissa Kollar, US Census Bureau, Current Population Reports, P60-263 **Income and Poverty in the United States: 2017**, US Government Printing Office, Washington, DC, 2018, page 25.

⁵ *Ibid*, p.8.

⁶ There are several measures of the relative dispersion of household or family incomes, but the Gini index is the oldest and best known.

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Fabian Pfeffer, at a conference on rising wealth inequality at the University of Michigan in April of 2015, reported that 24% of the correlation between parents' and children's wealth can be explained by their investment in education, while inheritances and gifts account for just 12%, and marriage 6%.⁷ Household wealth plays an important role in terms of higher education access and graduation rates as well. Pfeffer reported:

‘ Only 2/3 of those growing up in the lowest wealth quintile graduate from high school, just 15% enter college, and only 10% graduate. Among the top quintile, 90% graduate high school, and half enter college, virtually all of whom also graduate. Moreover, the wealth gap in education has been growing – that is, while college attendance has increased overall, it has increased more for those at the top of the wealth distribution.⁸’

Long-run analysis of income and wealth distributions may reveal disturbing results. However, these aggregate data do not mean that all persons are locked into their household's income or wealth group for all generations. There is movement, up the income and wealth scales; and, sometimes, down the income and wealth scales.

The next sections present historical data on labor force participation rates and two measures of unemployment and underemployment.

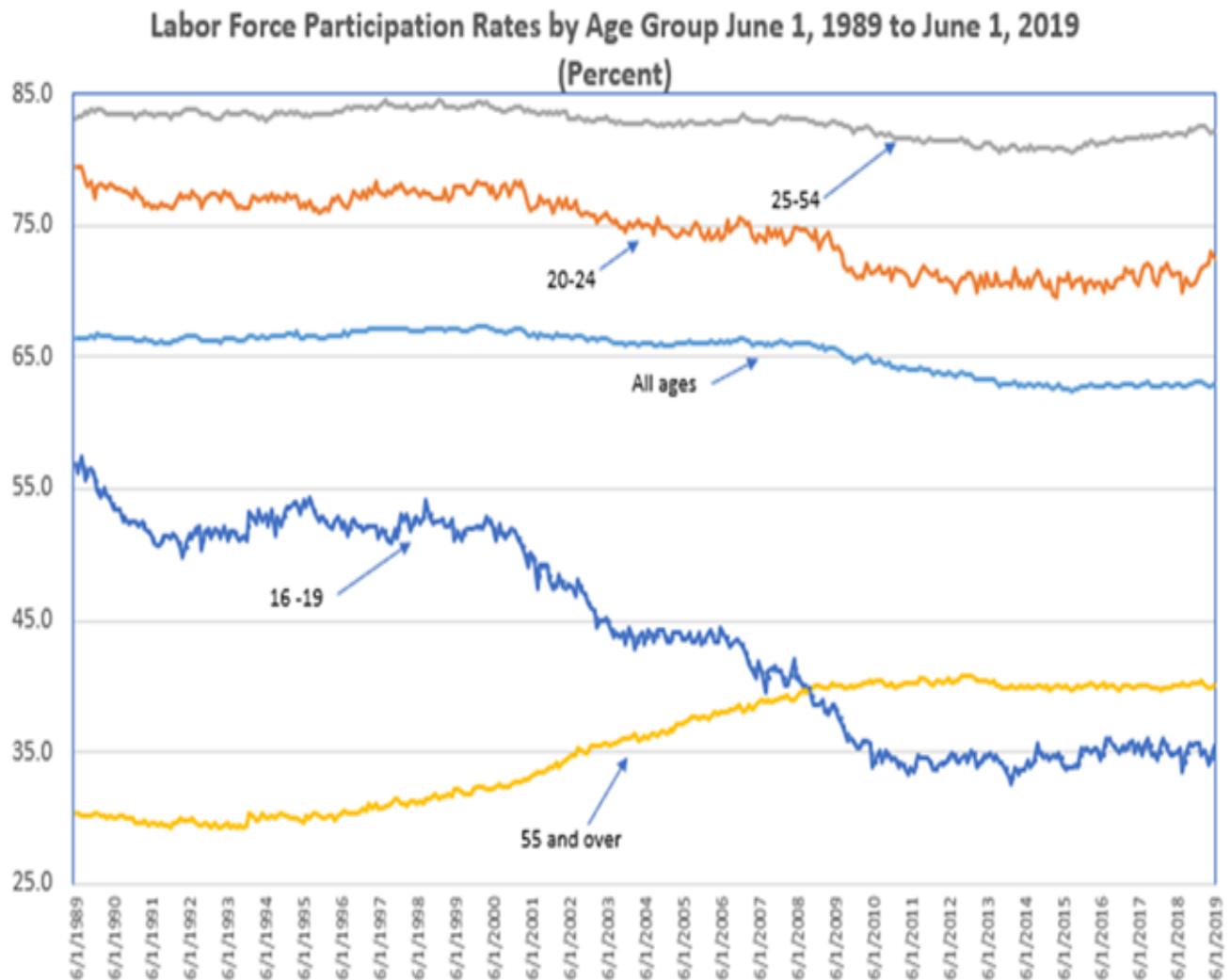
⁷ The distributions of wealth and income are not identical but are correlated.

⁸ <https://poverty.umich.edu/research-projects/policy-briefs/rising-wealth-inequality-causes-consequences-and-potential-responses/>

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Labor Force Participation Rate

Another indicator of the health of the economy is the degree to which people are attached to the labor force. That is, a rising labor force participation rate –the percentage of those working or looking for work as a percent of the civilian population that could be working (retirees, military personnel, and handicapped are examples of those that the BLS does not count as part of the could-be-working population) – indicates a healthy labor market.² Overall, the national Labor Force Participation Rate has remained relatively steady since the Great Recession, hovering around 62%. Prior to the Great Recession, the rate was slightly more than 65 percent.

Civilian Labor Force Participation Rate refers to the number of people available for work – actually employed or looking for work as a proportion of the total population in the United States, over 16 years of age, When the participation rate is high people are either actively employed; or, actively seeking employment. Conversely, when the participation rate is falling, people are withdrawing from the labor force for a number of reasons.



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Over all, there was a small drop over the course of the past thirty years. This group With the participation rate being 62.9percent in June2019 – only slightly above the lowest participation rate of 62.4 percent in September of 2015. This means that slightly more than 37% of people aged 16 and older who were available for work were neither employed outside their home nor were they actively seeking work This group includes a parent staying at home to care for minor children; unpaid caregivers, retirees, students, and other groups.

When broken down by age groups certain trends begin to emerge. Prime age (25 to 54) labor participation rate has started to tick back up to pre-recession norm (approximately 85 percent) after declining to approximately 81 percent during the Great recession. The youngest age groups, 16 to 19 and 20 to 24-year-old have exhibited lessening labor force participation rates during this period; with the 16 to 19-year-old showing the greatest decline. For the latter group, higher high school graduation rates and rising college enrollment rates can explain a large portion of the decline. For 20-24-year-old, labor force participation rates have yet to recover from their recession low point, most likely due to students choosing to stay in school; or choosing graduate school over labor force participation. Those 55 years old and older had increased their labor force participation rate from the beginning of the period to 2011, possibly due to the postponement of retirement. From 2011 until the last period shown, their participation rate averaged around 37 percent.

Professors Katherine Abraham and Melissa Kearney of the University of Maryland documented changes in trends in employment-to-population ratios from 1999 to 2016.⁹ Employment to population ratios and labor force participation rates may behave differently and convey different information during cycles; they exhibit similar trends over long periods of time.

As expected, population aging has had a notable effect on the overall employment rate over this period, but within-age-group declines in employment among young and prime age adults have been at least as important. Their review of the evidence concludes that labor demand factors, particularly trade with China and the increasing use of industrial robots into the labor market, are the most important factors in explaining the decline in employment ratios. Labor supply factors, most notably increased participation in disability insurance programs, have played a less important but not inconsequential role. Increases in the real value of the minimum wage and in the share of individuals with prison records also have contributed modestly to the decline in the aggregate employment rate.¹⁰Unemployment Rate

The flip side of employment to population ratios and labor force participation rates is unemployment rates. The chart below presents two measures of unemployment, on a monthly basis from January 1994 through May of this year. The first measure is U3, the official

⁹ Katherine G. Abraham and Melissa S. Kearney, “Explaining the Decline in the U.S. Employment-to-Population Ratio: a Review of the Evidence,” National Bureau of Economic Research Working Paper 24333, February 8, 2018

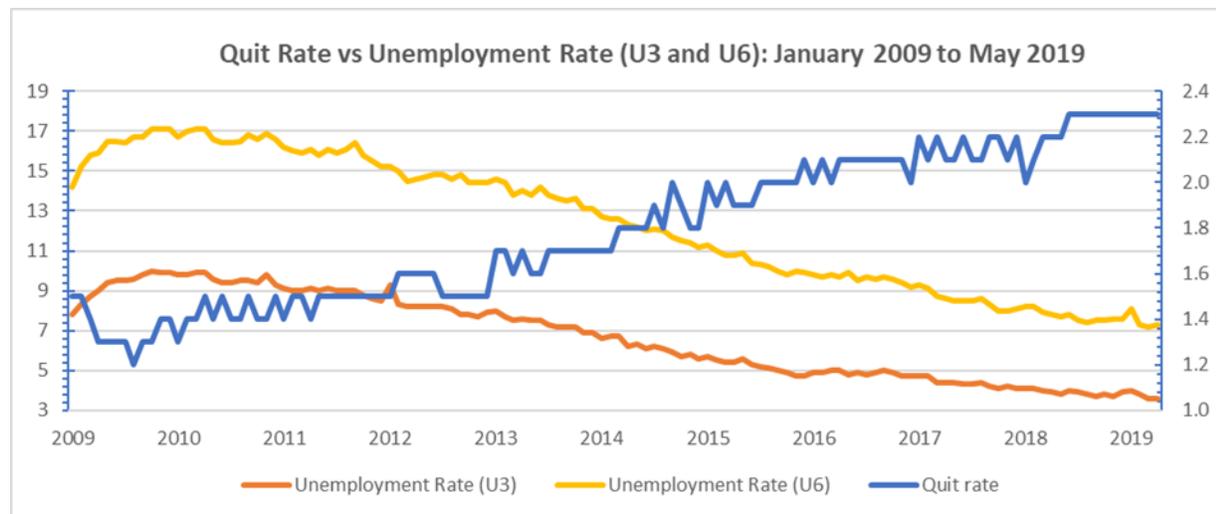
¹⁰ *Ibid*, p.62.

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unemployment rate released by the Bureau of Labor Statistics. It's an estimate of the percentage of all unemployed people looking for work as part of the total civilian labor force.

The U6 unemployment rate is a broadest measure of unemployment, provided by the Bureau of Labor Statistics. U-6 includes all officially unemployed persons, plus all marginally attached workers, plus total employed part time for economic reasons but want a full-time job, as a percent of the civilian labor force plus all marginally attached workers.¹¹

Except for magnitudes, U3 and U6 move almost in tandem over the course of business cycles. This can be seen most vividly during the Great Recession and the aftermath. U3 rose from 4.4 percent in December 2006 to 9.5 percent in July 2009; the corresponding change for U6 was from 8.0 percent to nearly 17 percent. Currently, U3 stands at 3.8 percent and U6 at slightly less than 8 percent.

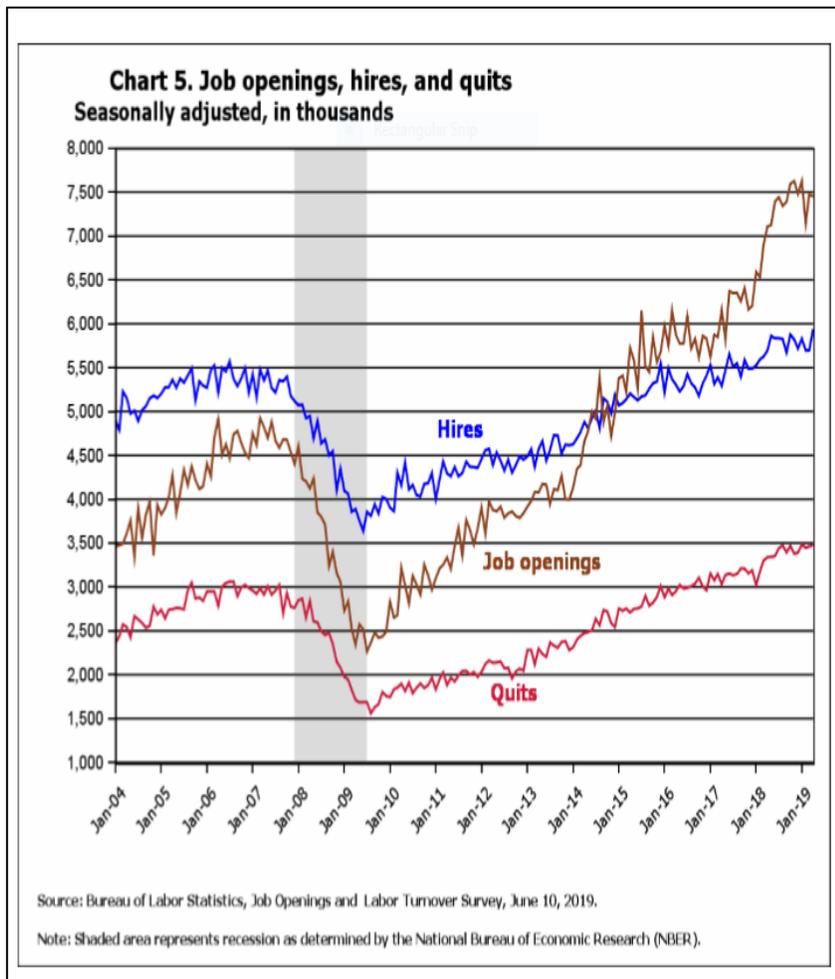


Data shows quit rates (see Appendix for definition) rising over a ten-year period when compared to declining U3 and U6 unemployment rates. This comparison provides information that can be related to the status of the economy. When quit rates rise this could indicate that people are quitting because they are economically sustainable – they believe they can fairly easily find a new job; or, they are transferring into a new position. Both U3, the official unemployment rate, and U6 were reduced by more than half from 2009 to this year. U3 fell from nearly 10 percent in 2009 to about 3.7 percent currently; U6 fell from a high of nearly 17 percent to about 7.6 percent currently. During this 10-year span, the correlation coefficient between the quit rate and either measure of unemployment was approximately -0.99.

¹¹ Persons not in the labor force who want and are available for work, and who have looked for a job sometime in the prior 12 months (or since the end of their last job if they held one within the past 12 months) but were not counted as unemployed because they had not searched for work in the 4 weeks preceding the survey. Discouraged workers are a subset of the marginally attached. <https://www.bls.gov/lau/stalt.htm>

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Additional evidence of an improving labor market can be gathered from Chart 5: Job openings, hire, and quits . All three indices have increased rather steadily since the end of the Great



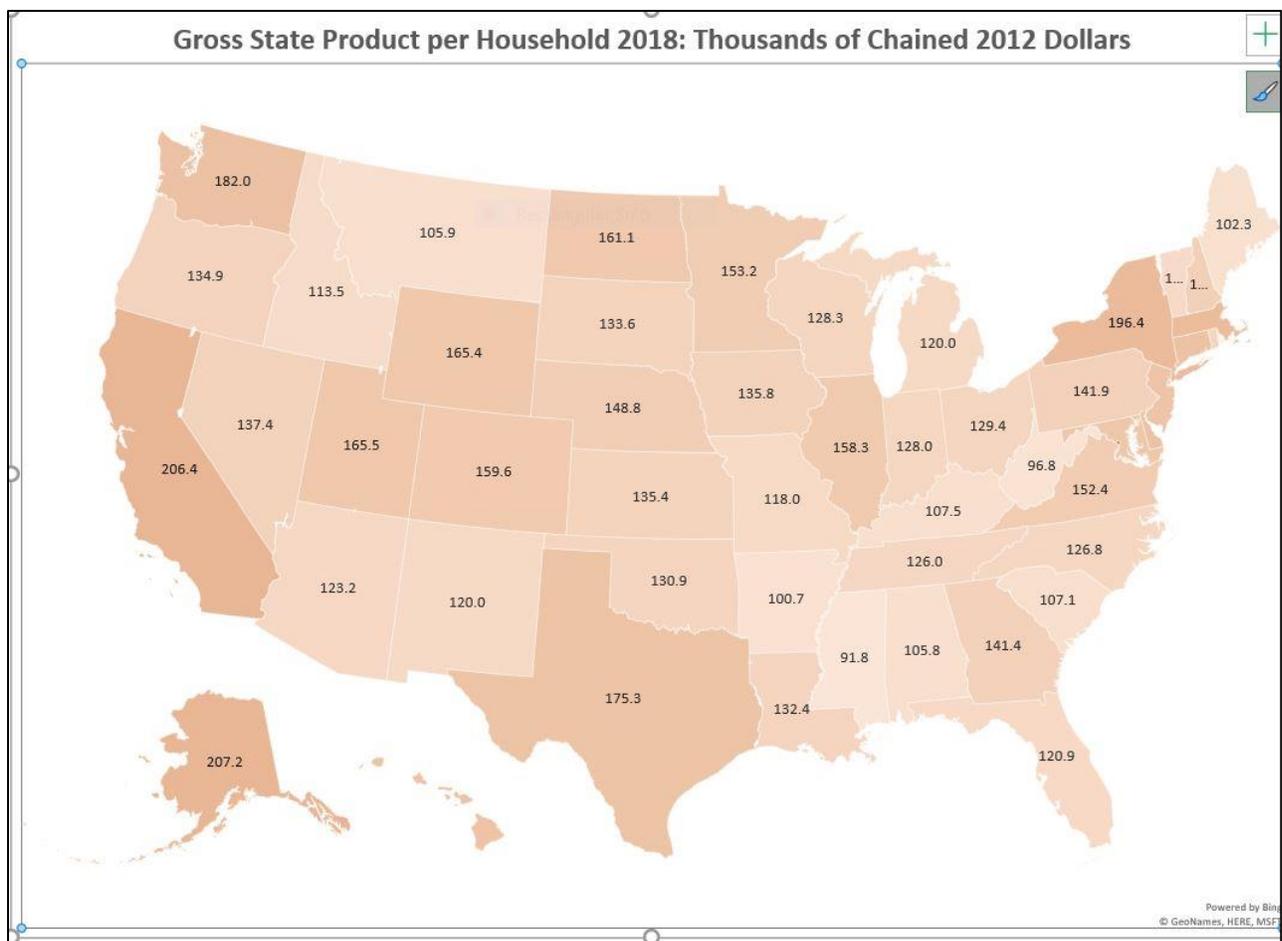
Recession. The number of hires reached a series high of 5.9 million by the end of April while job openings hovered around 7.4 million at that time. In fact, job openings have generally exceeded hires since 2015 indicating tightening in the labor markets. According to the Bureau of Labor Statistics, when the number of hires exceeds the number of separations, unemployment falls even if the hiring level is steady or declining.

Source: Bureau of Labor Statistics, retrieved from FRED

State Economic Conditions

Real Gross State Products

In this section, we present various indicators of state specific economic conditions – both levels and recent changes, The most familiar statistic is GDP. Gross state product (GSP) is similar to the familiar Gross Domestic Product (GDP). It is a measure of output, specifically the sum of all final goods and services, produced within each state. Like the national counterpart but is a very broad measure of a state’s economic health but reveals little about the economic condition of households. The map below shows GSP per household in 2018 in chained 2012 dollars.



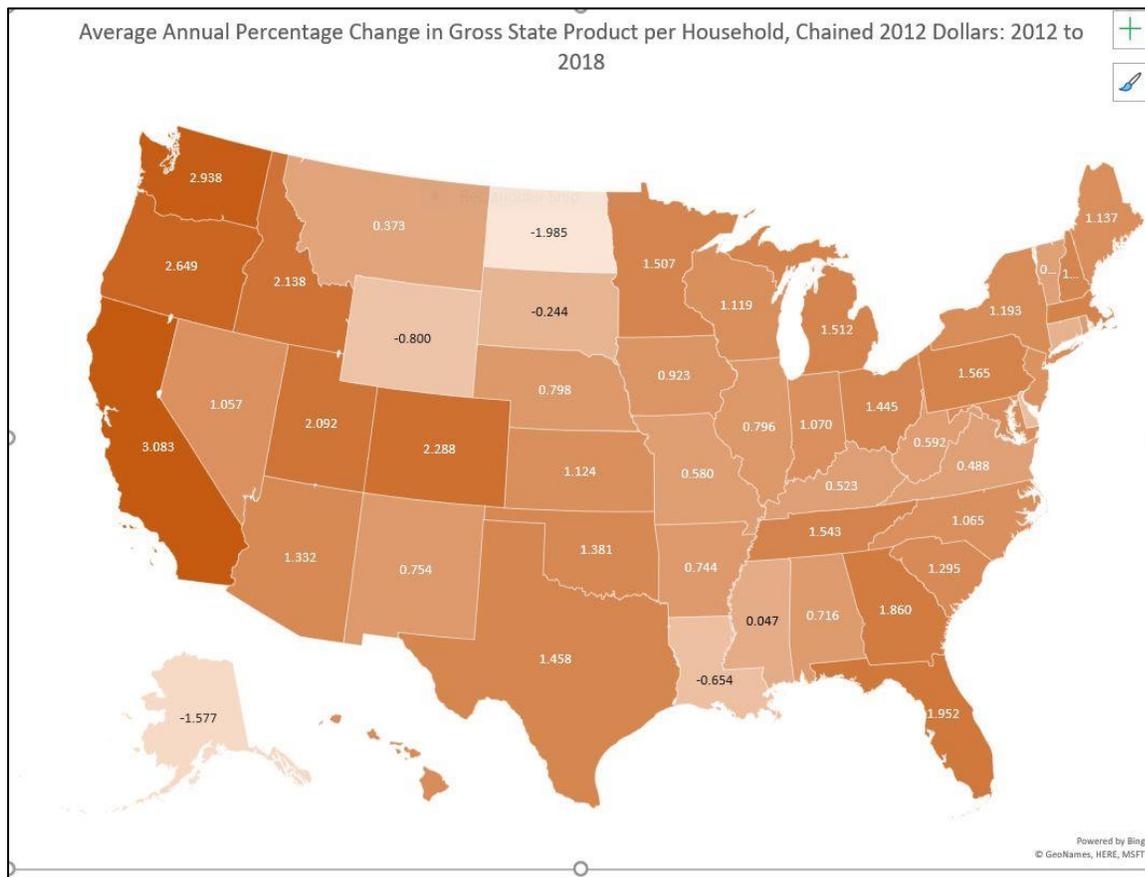
As of 2018, the US average GDP per household rounded to the nearest thousand dollars, exceeded \$155,0. In 2018, 16 states and the District of Columbia had higher GSPs per household and 34 states with lower. The District of Columbia has an average GSP per household of \$440.6

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thousand, followed by Alaska at \$207.2 thousand, California at \$206.4, New York at \$196.4 and Massachusetts at \$193.0.¹² The extremely high GSP per household figure in the District of Columbia should be due to the influx of large numbers of commuters from MD and VA. This estimate does not reflect the incomes of the residents of DC.

At the bottom of the real GSP per household list is Mississippi with \$91.8. West Virginia claims the second smallest real GSP per household at \$96.8 followed by Arkansas at \$100.7, Maine at \$102.3, and Alabama at \$105.8.¹³

From 2012 to 2018, the average real gross domestic product per household grew at an average 1.67 percent. Of the ten fastest growing states, six were in the West – California, Washington, Oregon, Colorado, Idaho, and Utah. Overall, real estate and rental and leasing, healthcare and social assistance, and durable goods manufacturing promoted growth across the board.¹⁴ Conversely, seven states experienced real GSP per household declines. Agriculture, forestry, fishing, and hunting activities were primarily responsible for the declines.



¹² US Bureau of Economic Analysis and the Multistate Tax Commission.

¹³ Ibid.

¹⁴ Bureau of Economic Analysis.

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As noted previously, Gross Domestic Product and Gross State Product are overly broad measures of economic conditions because they do not tell us anything about how families and households are faring. Disposable Personal Income presents information on the aggregate income of households and families and the non-profit institutions that provide assistance for them, after personal taxes and contributions to government social insurance programs. In this section we look at Disposable Personal Income per household as a measure of aggregate economic conditions.

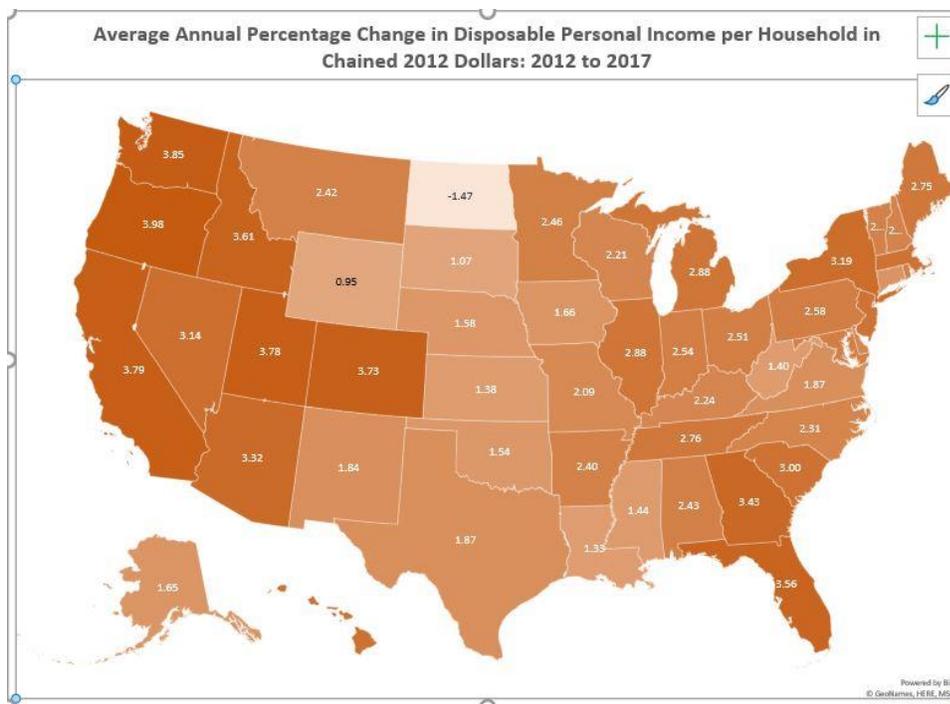
Disposable Personal Income

Basically, Disposable Personal Income (DPI) is after-tax labor market earnings, by place of residence plus property incomes – net earnings plus transfer payments plus property incomes. Net earnings by place of residence measures the sum of wages and salaries, supplements to wages and salaries, and proprietors' income, less government social insurance contributions, adjusted to be counted as to where the earner lives. The addition of property income means that the measure also takes into account rental, dividend, royalty, and interest income. The inclusion of government and business transfer payments provides information on the economic well-being of households, on average. Comparisons of Disposable Personal Income (DPI) by state are derived by deflating current dollar data by Regional Price Deflators (RPP)¹⁵ and then deflating by the Personal Consumption Price Deflator to derive estimates of DPI in 2012 dollars. Overall, in 2017, the US national average was \$117.4 thousand chained 2012 dollars. Per household disposable income ranged from \$93.0 thousand in West Virginia to \$140.6 thousand in the District of Columbia. There does not appear to be any strong discernable pattern to levels of disposable Personal Income per household. However, a somewhat different pattern emerges when we look at the average annual percentage change from 2012 to 2017.

For the US as a whole, per household DPI in 2012 dollars grew at a respectable average annual rate of 1.62 percent. Most Western states grew at a significantly faster rate than the national average. Similarly, some Southeastern and Northeastern states also grew at above average rates. Slower growth was prevalent generally in the center of country. Per household DPI fell in North Dakota by 2.4 percent per year.

¹⁵ RPPs are price indexes that measure geographic price level differences for one period in time within the United States. For example, if the RPP for Washington DC is 120, prices in DC are on average 20% higher than the U.S. average. An RPP is a weighted average of the price level of goods and services for the average consumer in one geographic region compared to all other regions in the U.S. BEA's estimates of real personal income consist of the current dollar estimates adjusted by the RPPs and converted to constant dollars using the U.S. PCE price index

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Disposable Personal Income less Transfer Payments

In this section we examine changes in DPI less transfer payments. Excluding transfer payments presents after-tax labor market earnings plus property incomes. In general, state

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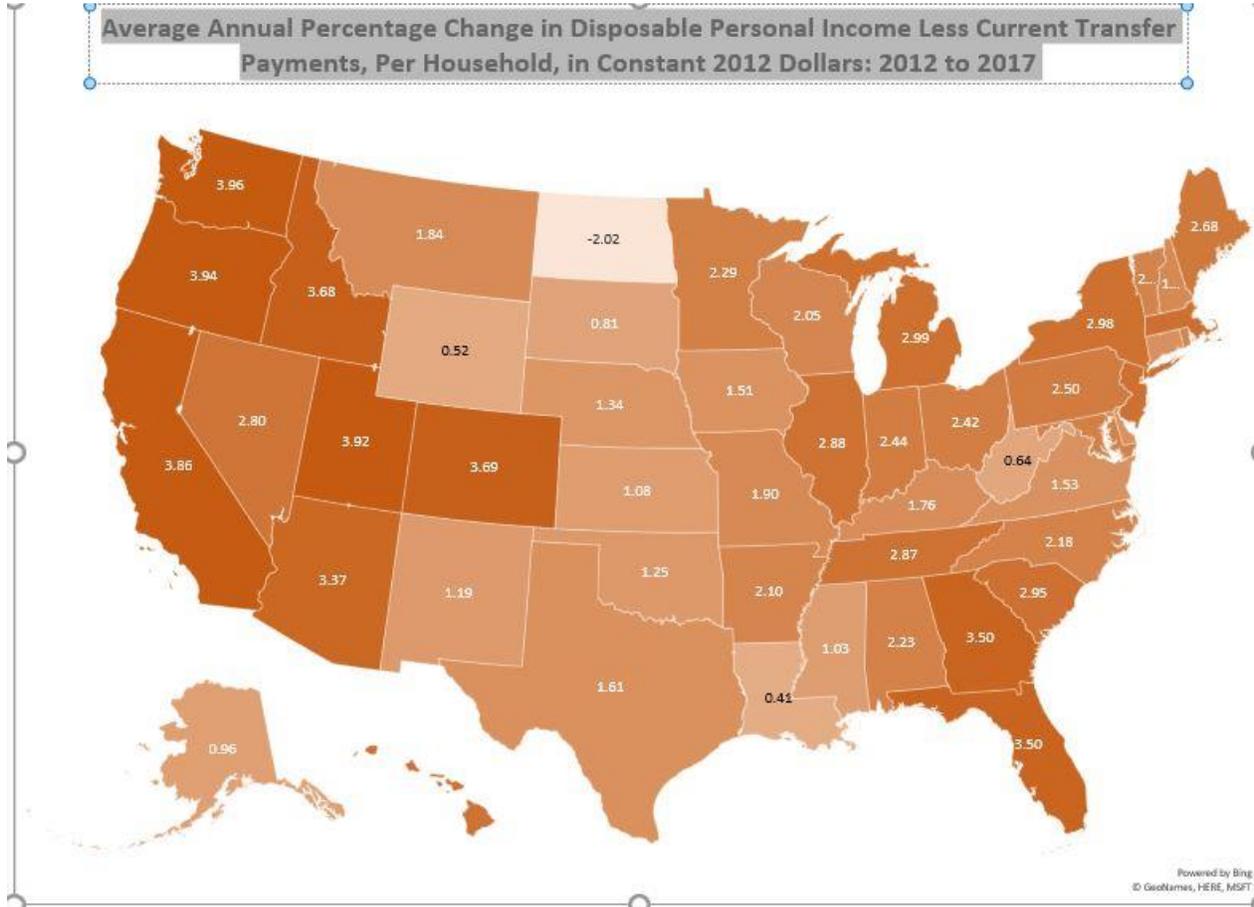
distributions of DPI and DPI less transfers are quite similar – The Spearman Rank Correlation between these distributions was 0.98, obviously, statistically significant. However, in three states – Alaska, South Dakota and West Virginia – the role of transfer payment was quite significant. Between 2012 and 2017, per household less transfer payments *fell* at an average annual rate of 0.008 percent, 0.19 percent and, 0.15 percent respectively. When transfer payments are included in household disposable incomes, DPI *rose* at an average annual rate of 0.68 percent in Alaska, 0.07 percent in South Dakota and 0.71 percent in West Virginia. In eleven states, inclusion of transfer payments in the measure of income resulted in a lower rate of growth of per household disposable incomes. DPI less transfer payments per household was \$94.8 thousand 2012 dollars in 2017. Per household DPI less transfer payments ranged from \$63.6 thousand in West Virginia to \$119.2 thousand in the District of Columbia.

The regional patterns of change in DPI less transfers from 2012 to 2017 was quite similar the regional change in DPI. The most rapid growth generally occurred in the West and the East coast, with some exceptions, of course. DPI less transfers grew slowly in Texas, New Mexico, and Montana. Median DPI less transfers fell in both North and South Dakota and in Louisiana.

Median Household Incomes

The maps below present data on median household incomes for 2017, the latest year available;

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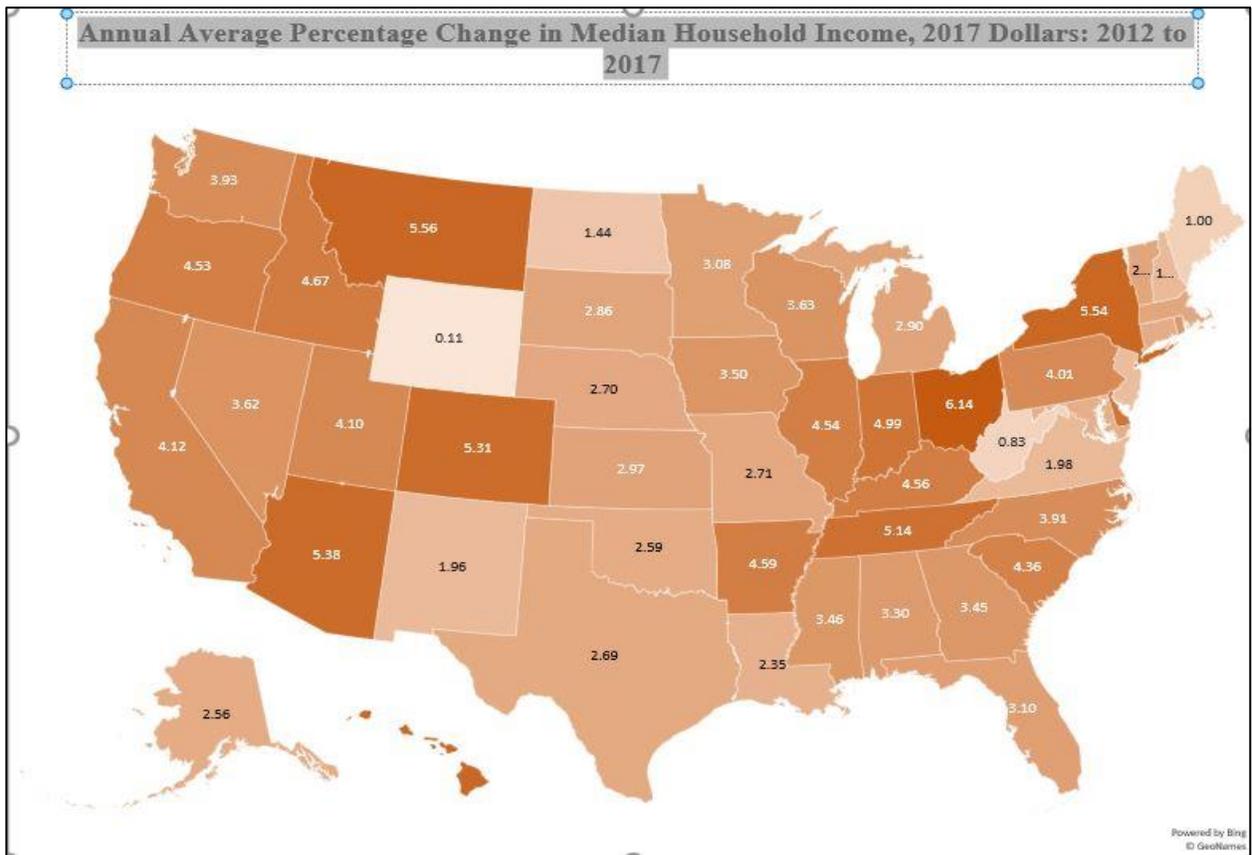
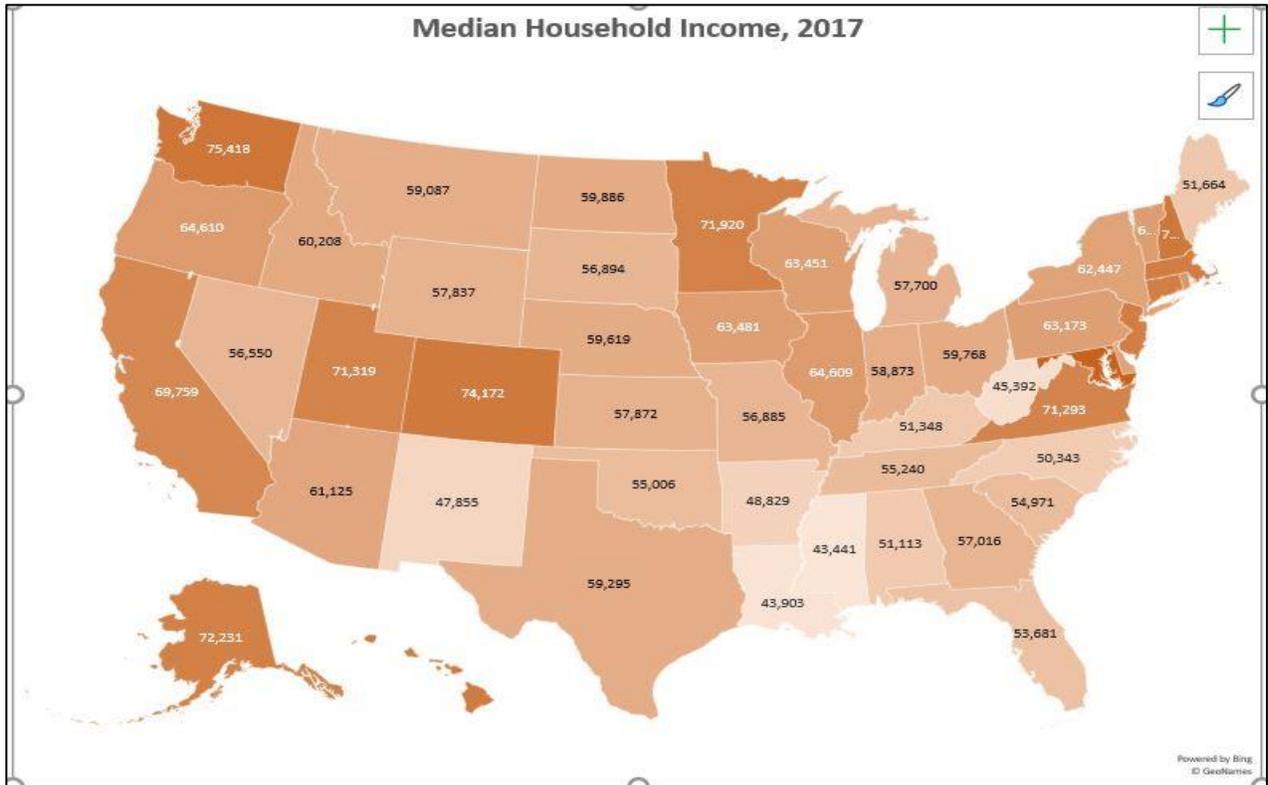


and, the average annual percentage change in median household incomes, in 2017 dollars, from 2012 to 2017. In 2017, the median income of US households was \$61,372, up from \$51,017 in 2012; that is, median household incomes grew at an average annual rate of 3.8 percent. However, there was a wide dispersion around these measures of central tendency. Median household incomes in 2017 ranged from \$43,441 in Mississippi to \$83,382 in the District of Columbia.

High income states are generally concentrated on both coasts. For example, of the ten highest income states. Six are on the east coast – District of Columbia, Maryland New Hampshire, New Jersey, Connecticut, and Massachusetts. Similarly, four of the 10 highest income states are on the west coast – Washington, Colorado, Hawaii, and Alaska.

The states with the most rapid growth of income were much less geographically concentrated than the level of median household income. Median household income grew at an average annual rate of 6.14 percent. Conversely, the average annual growth rate of median household income was 0.11 percent in Wyoming. Other states with rapid income growth between 2012 and 2017 were: Massachusetts, New York, Hawaii, Arizona, Colorado, Tennessee, District of Columbia, Indiana, and Delaware.

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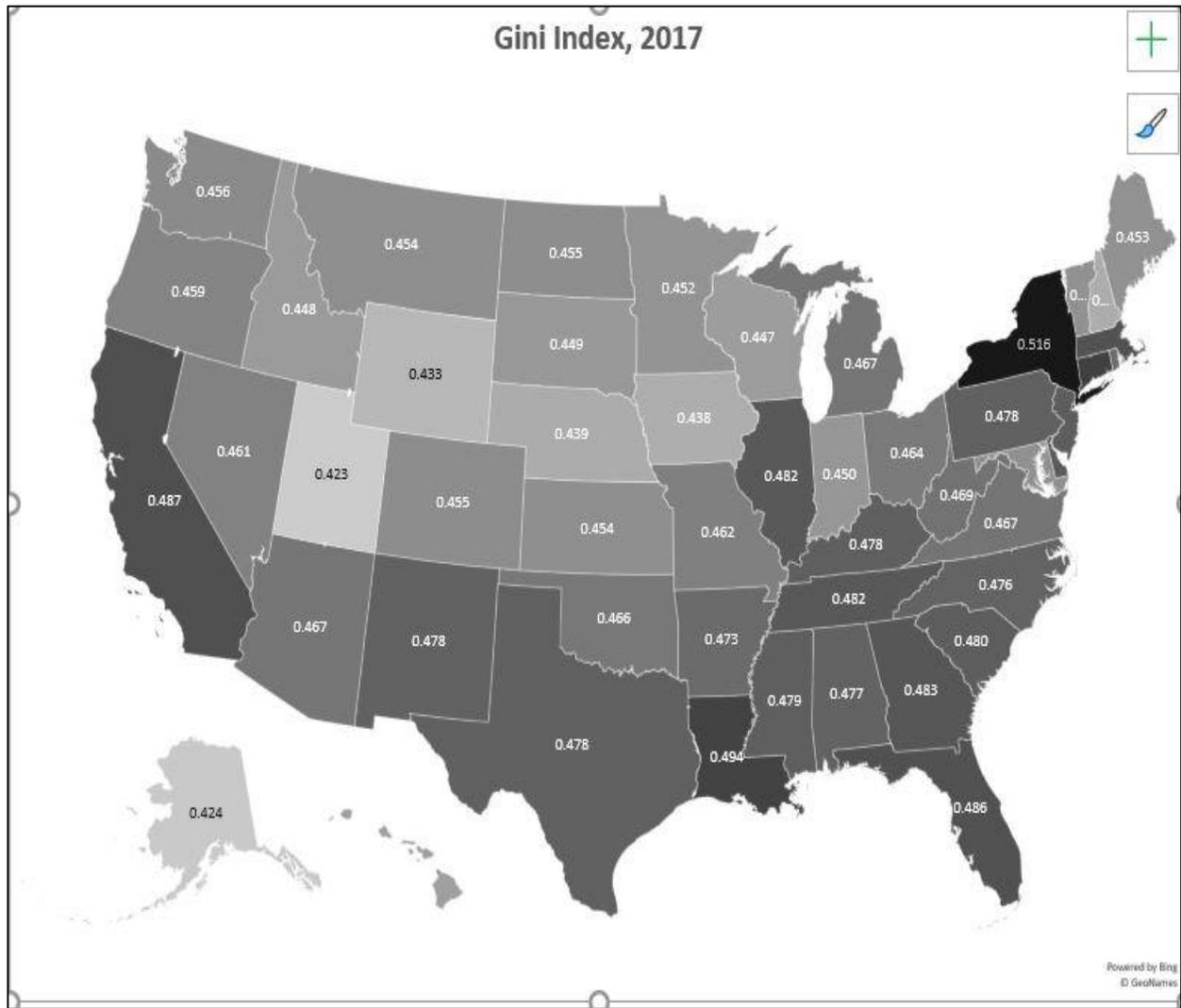


Income Dispersion

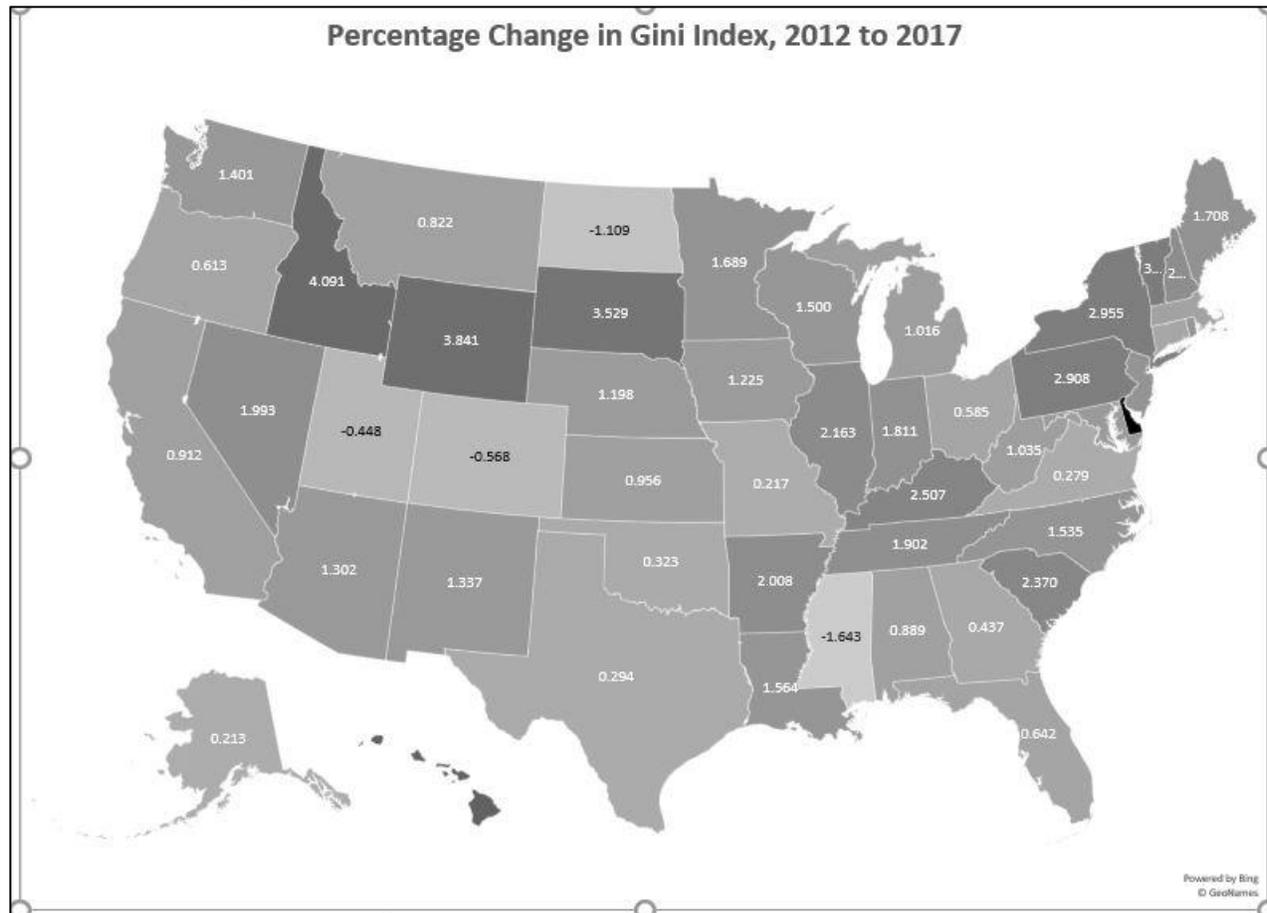
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As mentioned previously, the measure of income dispersion; or, income inequality, is the Gini Index. The map below presents the Gini Index for the states in 2017 and the percentage change in that index for the 2012 to 2017 period. The Gini Index exceeded 0.5 in the District of Columbia and New York, the areas with the greatest degree of income inequality. In Utah, the Index was .423 in 2017.

In general, the degree of income inequality increased between 2012 and 2017. During that period, 2017, the Gini index increased by more than 10 percent in Delaware – by far the largest increase of any state. On the other end of the spectrum, the degree of income inequality declined slightly in Utah, Mississippi, and the District of Columbia.



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Unemployment

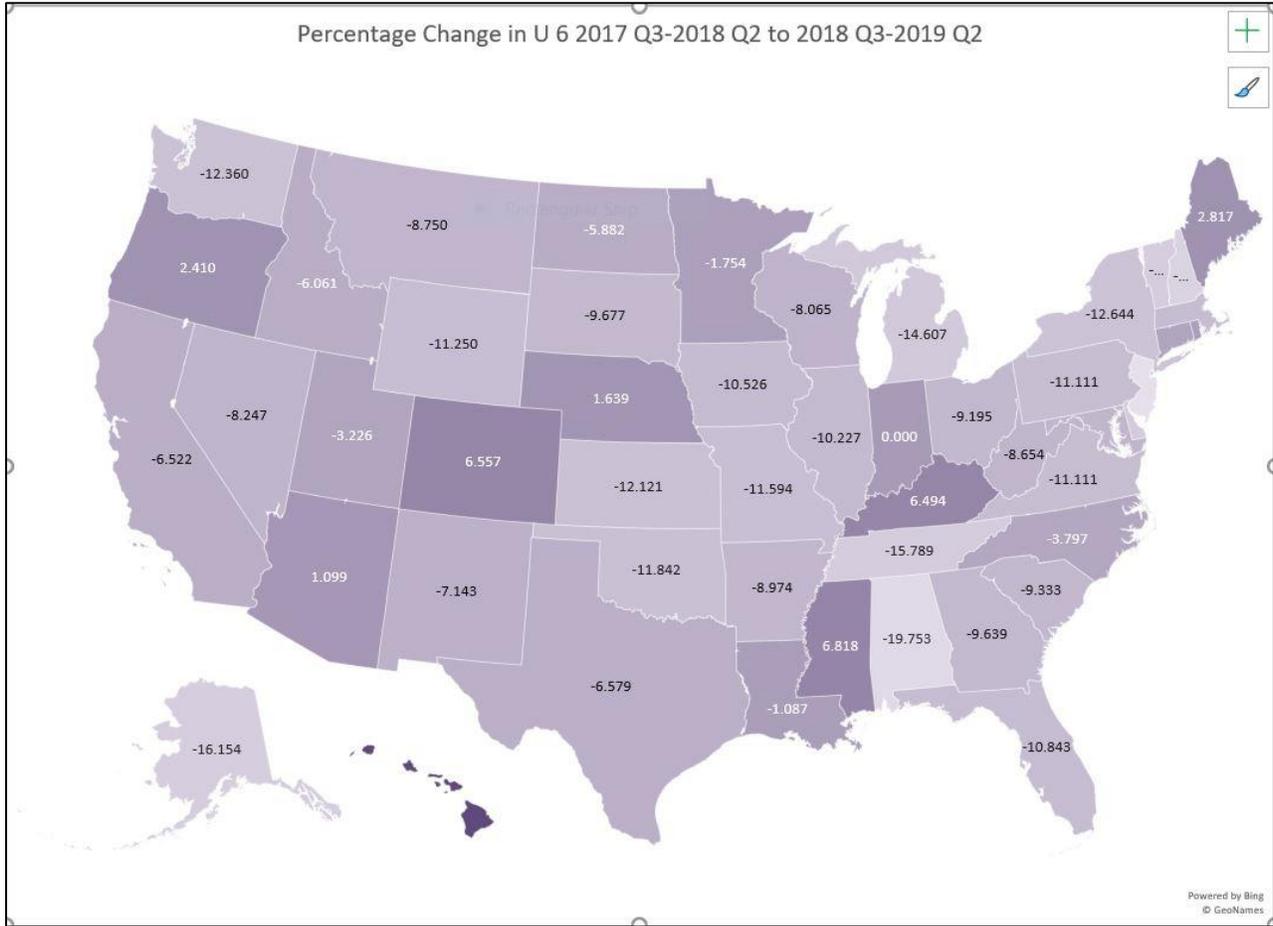
Changes in the unemployment rates varied widely among the states as shown on the map below. The official unemployment rate, U3, fell from 4.1 percent during the average of the 4-quarter period 2017 Q3 to 2018 Q2 to 3.8 percent for 2018 Q2 to 2019 Q3 period --further evidence of tightening labor markets. However, the degree to which labor markets improved varied widely among the states. For example, U3 fell by more than 24 percent in Vermont and by U6 by 21.8 percent in New Jersey. . Conversely, Hawaii experienced major increases in U 3 during that period – 27.3 percent. Arizona, Colorado, Maine, Nebraska, and Oregon experienced increases in U3 but, considerably much smaller increases than Hawaii’s experience.

As stated in the National Backdrop section, the U6 unemployment rate is a broader measure of unemployment, taking into account all unemployed people looking for work, those who took on part time jobs even though they want full time jobs, and those who have looked for a job within the past year, but not recently.

Similarly, U 6 fell from 8.1 percent to 7.4 percent during the same periods. Indeed, many states experienced major reductions in unemployment rates during those time spans both U3 and U6. Hawaii experienced a major increase in U 6 during this period --25.6 percent. Other states experiencing significant increases in U 6 were: Arizona, Nebraska, Colorado, Oregon, Maine,

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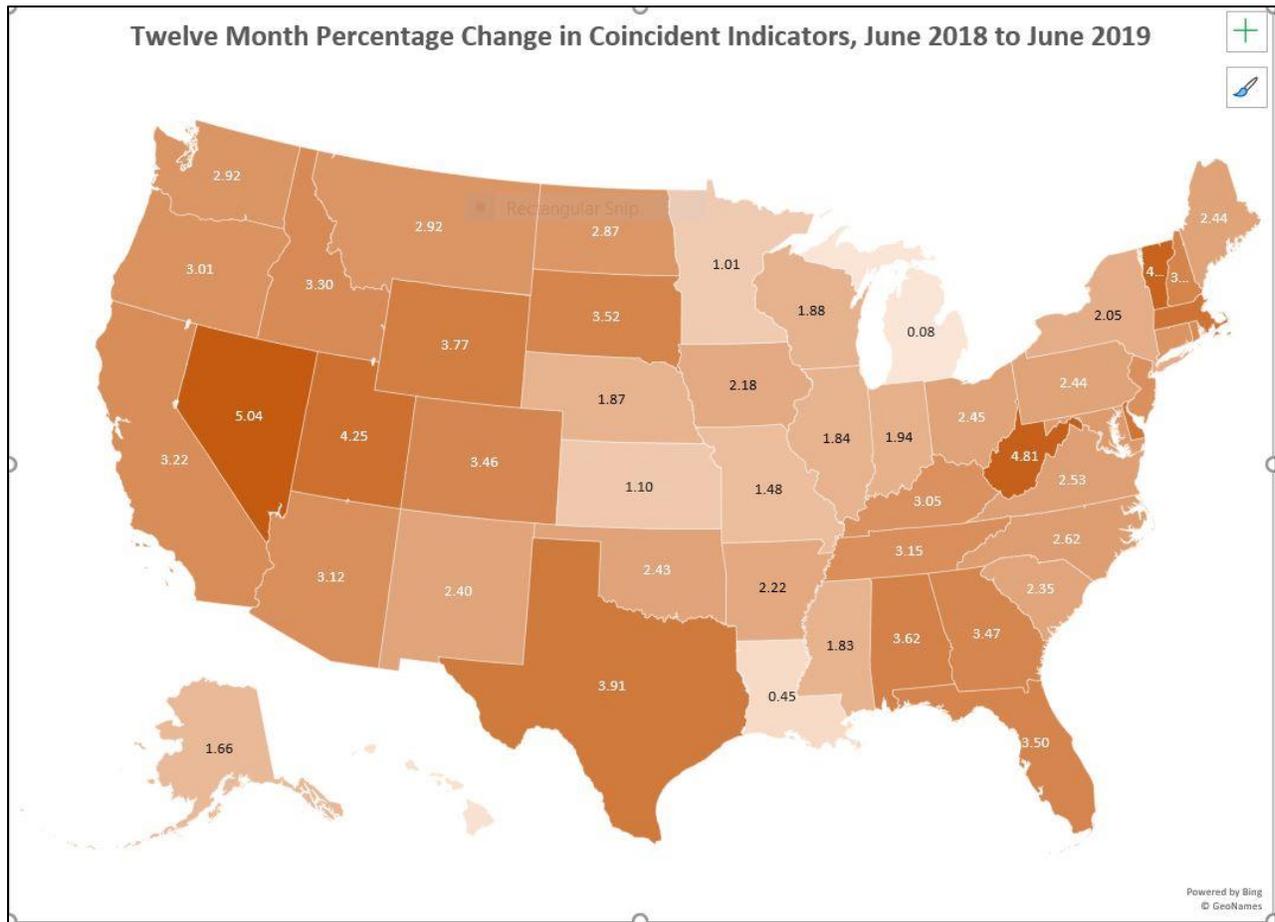
Kentucky, and Mississippi. However, the increases in U 6 were significantly less than the increase that Hawaii had experienced.



Coincident Indexes

Perhaps the most comprehensive picture of state economic condition is the Coincident Index of Economic Indicators published by the Federal Reserve Bank of Philadelphia. The Coincident Index combines four state-level indicators to summarize current economic conditions in a single statistic (see the Appendix for specifics). Changes in the index signify the direction of change of the previous year.

Between June 2018 and June 2019, the Coincident Index for the US increased by 3.0 percent. All states experienced positive developments in their economic conditions over the past year. Nevada experienced the largest increase – 5.0 percent. Other states experiencing significant increases in the coincident index were: West Virginia, Vermont, Utah, Massachusetts, Delaware, Texas, Wyoming, Alabama, and New Hampshire. Conversely, Nebraska, Illinois, Mississippi, Alaska, Missouri, Kansas, Minnesota, Louisiana, Hawaii, and Michigan experienced significantly smaller, but positive changes in the coincident index.



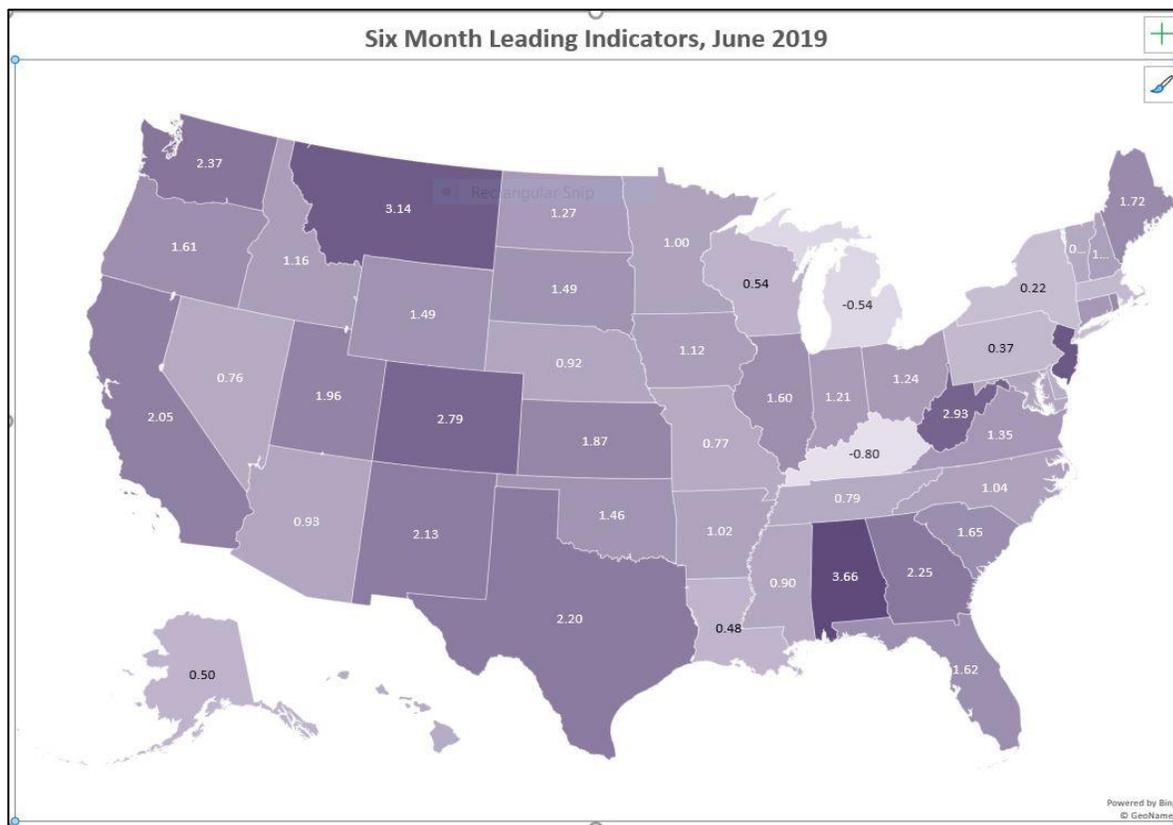
The map below provides a glimpse into the near future provided by the Federal Reserve Bank of Philadelphia – the six-month leading indicators. As noted on the Federal Reserve Bank of

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Philadelphia's website:

“The leading index for each state predicts the six-month growth rate of the state's coincident index. In addition to the coincident index, the models include other variables that lead the economy: state-level housing permits (1 to 4 units), state initial unemployment insurance claims, delivery times from the Institute for Supply Management (ISM) manufacturing survey, and the interest rate spread between the 10-year Treasury bond and the 3-month Treasury bill.”¹⁶

With the exceptions of Michigan and Kentucky, the Federal Reserve Bank of Philadelphia predicts that all states will experience improving economic conditions over the next six months. Economic conditions are expected to improve in New York, Massachusetts, Pennsylvania, Louisiana, Alaska, Wisconsin, Delaware, Hawaii and Nevada. Colorado, West Virginia, Montana, New Jersey, and Alabama are projected to experience the most rapid increases in economic conditions. Other states that should experience relatively rapid economic improvement include: California, New Mexico, Texas, Georgia, and Washington.



¹⁶ <https://www.philadelphiafed.org/research-and-data/regional-economy/indexes/leading>

Future Economic Conditions?

The title of this section: Future Economic Conditions is posed as a question for the simple reason that no one can actually predict the economic future, especially over a ten-year period. With that caveat in mind, we present *some* of the estimates of the economic variables used by the Congressional Budget Office (CBO) to produce their extended baseline.¹⁷ This baseline is used by the CBO to predict future revenues and expenditures of the US government. GDP is expected to grow quickly in the short term before slowing down in 2019. Much of this immediate robustness is due to the federal tax reform enacted at the end of 2017, from which real GDP growth should accelerate by 0.3% in 2018 and 0.6% in 2019 according to the CBO.¹⁸ These projections assume that labor productivity will accelerate past the post-recession average pace, which may occur due to deregulatory encouragement. Increases in investment spending with money that would normally be spent on compliance would promote stronger total factor productivity growth.¹⁹

The CBO does not project a significant chance of recession, but expansionary pressures may strain the economy's productive capacity, raising the likelihood that unexpected vulnerabilities, such as higher inflation or unsustainable debt burdens, would develop. Regardless, the CBO stated that if the US economy does fall into a recession, it would be a "soft landing."²⁰ The CBO warned that growth may be weaker in the coming decade for a number of reasons.²¹ Slower growth is attributable to several factors:

- Most notably, slower growth of the potential labor force (the labor force adjusted for fluctuations in the business cycle) That slower projected growth of the potential labor force results mainly from slowing population growth and the aging of the population.
- Total factor productivity in the nonfarm business sector is projected to grow more slowly than its historical average in CBO's projections, increasing by 1.1 percent per year, on average, from 2019 to 2029. Some of this slowdown reflects a reduction in federal investment as a share of GDP.
- Potential labor productivity in the entire economy— defined as real potential GDP per potential hour of work—is likewise projected to grow more slowly than it has in the past, reflecting the slower growth of total factor productivity and less private investment in capital goods.
- Unanticipated changes to trade agreements or tariff policies could impede aggregate economic activity.

Future Economic Conditions?

¹⁷ The Long-Term Budget Outlook, June 2019. Congressional Budget Office, June 25, 2019. <https://www.cbo.gov/publications/55331>

¹⁸ The Budget and Economic Outlook: 2018 to 2028. Congressional Budget Office. April 2018. <https://www.cbo.gov/system/files/115th-congress-2017-2018/reports/53651-outlook.pdf>

¹⁹ Ibid.

²⁰ Ibid.

²¹ The Long-Term Budget Outlook, June 2019, op cit.

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The title of this section: Future Economic Conditions is posed as a question for the simple reason that no one can actually predict the economic future, especially over a ten-year period. With that caveat in mind, we present *some* of the estimates of the economic variables used by the Congressional Budget Office (CBO) to produce their extended baseline.²² This baseline is used by the CBO to predict future revenues and expenditures of the US government. GDP is expected to grow quickly in the short term before slowing down in 2019. Much of this immediate robustness is due to the federal tax reform enacted at the end of 2017, from which real GDP growth should accelerate by 0.3% in 2018 and 0.6% in 2019 according to the CBO.²³ These projections assume that labor productivity will accelerate past the post-recession average pace, which may occur due to deregulatory encouragement. Increases in investment spending with money that would normally be spent on compliance would promote stronger total factor productivity growth.²⁴

The CBO does not project a significant chance of recession, but expansionary pressures may strain the economy's productive capacity, raising the likelihood that unexpected vulnerabilities, such as higher inflation or unsustainable debt burdens, would develop. Regardless, the CBO stated that if the US economy does fall into a recession, it would be a "soft landing."²⁵ The CBO warned that growth may be weaker in the coming decade for a number of reasons.²⁶ Slower growth is attributable to several factors:

- Most notably, slower growth of the potential labor force (the labor force adjusted for fluctuations in the business cycle) That slower projected growth of the potential labor force results mainly from slowing population growth and the aging of the population.
- Total factor productivity in the nonfarm business sector is projected to grow more slowly than its historical average in CBO's projections, increasing by 1.1 percent per year, on average, from 2019 to 2029. Some of this slowdown reflects a reduction in federal investment as a share of GDP.
- Potential labor productivity in the entire economy— defined as real potential GDP per potential hour of work—is likewise projected to grow more slowly than it has in the past, reflecting the slower growth of total factor productivity and less private investment in capital goods.
- Unanticipated changes to trade agreements or tariff policies could impede aggregate economic activity.

²² The Long-Term Budget Outlook, June 2019. Congressional Budget Office, June 25, 2019. <https://www.cbo.gov/publications/55331>

²³ The Budget and Economic Outlook: 2018 to 2028. Congressional Budget Office. April 2018. <https://www.cbo.gov/system/files/115th-congress-2017-2018/reports/53651-outlook.pdf>

²⁴ Ibid.

²⁵ Ibid.

²⁶ The Long-Term Budget Outlook, June 2019, op cit.

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Annual Values for Economic Variables That Underlie CBO's Extended Baseline												
Variable	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
	Actual					Projected						
Growth of GDP (Percent per year)	2.3	2.7	1.9	1.6	1.6	1.7	1.8	1.8	1.7	1.8	1.8	1.8
Real GDP ^a	2.3	2.1	1.3	0.9	0.9	1.0	1.2	1.1	1.0	1.2	1.2	1.1
Real GDP per Person	1.0	0.7	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4
Growth of the Labor Force (Percent per year)	62.8	62.8	62.8	62.7	62.5	62.2	62.0	61.7	61.5	61.3	61.1	61.0
Labor Force Participation Rate (Percent)	3.9	3.5	3.7	4.2	4.6	4.8	4.8	4.8	4.8	4.8	4.7	4.7
Unemployment rate (U-3) (Percent)	0.1	0.1	0.1	*	*	*	*	-0.1	-0.1	-0.1	-0.1	*
Growth of Average Hours Worked (Percent per year)	2.0	1.3	0.7	0.3	*	0.3	0.5	0.4	0.3	0.3	0.4	0.5
Growth of Total Hours Worked (Percent per year)	81.4	81.4	81.5	81.4	81.5	81.3	81.3	81.2	81.2	81.2	81.2	81.2
Earnings as a Share of Compensation (Percent)	1.3	1.9	1.5	1.6	0.9	0.9	1.1	1.2	1.1	1.2	1.2	1.1
Growth of Real Earnings per Worker (Percent per year)	0.8	0.7	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Total factor productivity in the nonfarm business sector ^b	0.5	1.4	1.1	1.5	1.6	1.3	1.4	1.4	1.4	1.4	1.5	1.4
Real GDP per hour worked ^b	1.5	1.9	1.1	1.6	1.1	1.2	1.4	1.4	1.3	1.5	1.4	1.3
Labor Force Productivity ^b	2.5	2.1	2.6	2.6	2.5	2.5	2.4	2.3	2.3	2.3	2.3	2.4
Inflation	2.3	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0
Projected change in CPI-U												
Projected change in the GDP price index												
Interest Rates												
Real rates												
On 10-year Treasury notes and the OASDI trust funds	0.4	1.3	1.1	1.1	1.2	1.3	1.4	1.4	1.4	1.4	1.4	1.4
Nominal rates												
On 10-year Treasury notes and the OASDI trust funds	2.9	3.4	3.6	3.7	3.7	3.8	3.7	3.7	3.7	3.7	3.7	3.8
On all federal debt held by the public ^c	2.3	2.4	2.7	2.9	3.1	3.2	3.3	3.3	3.3	3.3	3.4	3.4
Memorandum												
Real GDP (Billions of 2019 dollars)	20,919	21,478	21,865	22,333	22,589	22,968	23,391	23,816	24,219	24,663	25,107	25,548
Nominal GDP (Billions of dollars, fiscal year)	20,236	21,252	22,120	22,939	23,778	24,672	25,642	26,625	27,667	28,737	29,862	31,006
Population (Millions)	331	333	335	337	339	342	344	346	348	350	353	355

CPI-U = consumer price index for all urban consumers; GDP = gross domestic product; OASDI = Old-Age, Survivors, and Disability Insurance; * = between -0.05 and 0.05.

a. Productivity growth not explained by increases in inputs such as capital and labor. Total Factor Productivity, as a residual, captures all other factors influencing growth, such as improved uses of the measurable inputs, general technological progress, and changes in policy and institutions.

b. Real values have been adjusted to remove the effects of changes in prices.

c. The ratio of real GDP to the labor force.

d. The interest rate on all federal debt held by the public equals net interest payments in the current fiscal year divided by debt held by the public at the end of the previous fiscal year.

Source: Congressional Budget Office.

Appendix

Civilian Labor Force – a measure from the Bureau of Labor Statistics that includes all persons over the age of 16 that are employed and unemployed but looking for work. The measure disregards those who are handicapped, retired, military personnel, employed by the federal government, or agricultural workers.

Coincident Indexes – According to the Federal Reserve Bank of Philadelphia, “the coincident indexes combine four state-level indicators to summarize current economic conditions in a single statistic. The four state-level variables in each coincident index are nonfarm payroll employment, average hours worked in manufacturing by production workers, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (U.S. city average). The trend for each state’s index is set to the trend of its gross domestic product (GDP), so long-term growth in the state’s index matches long-term growth in its GDP.”⁵⁵ The coincident indicators are updated monthly.

Disposable Personal Income – personal income after taxes have been subtracted (see personal income).

Employment to Population Ratio – considers all employed persons as a percent of the civilian noninstitutionalized population (as opposed to the labor force).

Gini Index is a summary measure of income inequality. The Gini coefficient incorporates the detailed shares data into a single statistic, which summarizes the dispersion of income across the entire income distribution. The Gini coefficient ranges from 0, indicating perfect equality (where everyone receives an equal share), to 1, perfect inequality (where only one recipient or group of recipients receives all the income). The Gini is based on the difference between the Lorenz curve (the observed cumulative income distribution) and the notion of a perfectly equal income distribution. (from the Bureau of the Census).

Gross Domestic Product - a monetary measure of the total amount of goods and services produced in a period (for our purposes, one year) within the borders of the country.

Gross State Product – a monetary measure of the total amount of goods and services produced in a period (for our purposes, one year) within the borders of the state.

Labor Force Participation Rate – considers the labor force (all persons employed and unemployed as defined by the Bureau of Labor Statistics) as a percent of the total civilian noninstitutionalized population.

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Leading Indexes – According to the Federal Reserve Bank of Philadelphia, “the leading index for each state predicts the six-month growth rate of the state’s coincident index. In addition to the coincident index, the models include other variables that lead the economy: state-level housing permits (1 to 4 units), state initial unemployment insurance claims, delivery times from the Institute for Supply Management (ISM) manufacturing survey, and the interest rate spread between the 10-year Treasury bond and the 3-month change.

Quit Rate- The number of people voluntarily leaving their current job as a percentage of the labor force.

Net Earnings by Place of Residence – the sum of earnings by place of work (salaries, wages, and supplements), less contributions for government social insurance, plus an adjustment to convert earnings by place of work to a place-of-residence basis.

Personal Income – the income received by all persons from all sources (wages and salary, rent income, interest, dividends, and government transfer payments).

Property Income – interest, dividends, rent, and royalties.

Real Gross Domestic Product – an inflation-adjusted monetary measure of the total amount of goods and services produced in a period (for our purposes, one year) within the borders of the country.

Real Gross State Product – an inflation-adjusted monetary measure of the total amount of goods and services produced in a period (for our purposes, one year) within the borders of the state.

U3 Unemployment Rate – considers the total unemployed as a percent of the civilian labor force. It is commonly known as the official unemployment rate released by the Bureau of Labor Statistics.⁵⁷

U6 Unemployment Rate – considers the total unemployed, plus all persons marginally attached to the labor force, plus total employed part time for economic reason, as a percent of the civilian labor force combined with the persons marginally attached to the labor force.⁵⁸

